

IN THE CLAIMS:

1. (Currently Amended) A fuel cell, comprising:

a fuel electrode ~~which has~~ a fuel-diffusion layer for diffusing fuel and a fuel-reactive layer for reaction of the fuel, said fuel-reactive layer having an outer surface contacting the fuel diffusion layer, said fuel-diffusion layer containing a water-repellent material, ;

an oxygen electrode including ~~which has~~ an oxygen-diffusion layer for diffusing oxygen and an oxygen-reactive layer for reaction of the oxygen, said oxygen-reactive layer having an outer surface contacting the oxygen-diffusion layer, and wherein said oxygen-diffusion layer contains a water-repellent material and has less water-repellency than said fuel-diffusion layer;
and

an electrolyte layer, said fuel-reactive layer arranged between said electrolyte layer and said fuel-diffusion layer and said oxygen-reactive layer arranged between said electrolyte layer and said oxygen-diffusion layer ~~which is arranged between the fuel electrode and the oxygen electrode;~~

~~wherein the fuel-diffusion layer has higher water-repellency than that of the oxygen-diffusion layer.~~

2. (Cancelled)

3. (Currently Amended) The fuel cell as claimed in Claim 1. wherein each of the fuel-diffusion layer and the oxygen-diffusion layer are formed of plural sublayers, has at least one of which

~~contains the water-repellent material water-repellent-material-containing layer which contains a material having water repellency, and the water-repellent-material-containing layer of the fuel-diffusion layer has higher water repellency than that of the oxygen-diffusion layer.~~

4. (Currently Amended) The fuel cell as claimed in Claim 1 3, wherein the content of the water-repellent material in ~~having water repellency in the water-repellent-material-containing layer of the fuel-diffusion layer is larger than that of the water-repellent material in having water repellency in the water-repellent-material-containing layer of the oxygen-diffusion layer.~~

5. (Currently Amended) The fuel cell as claimed in Claim 1 4, wherein the content of the water-repellent material in ~~having water repellency in the water-repellent-material-containing layer of the fuel-diffusion layer is larger than that of the water-repellent material in having water repellency in the water-repellent-material-containing layer of the oxygen-diffusion layer by at least 5 wt%.~~

6. (Currently Amended) The fuel cell as claimed in Claim 1 3, wherein the content of the water-repellent material ~~having water repellency in the water-repellent-material-containing layer of the fuel-diffusion layer is 20 to 80 wt%.~~

7. (Currently Amended) The fuel cell as claimed in Claim 1 3, wherein the content of the water-repellent material ~~having water repellency in the water-repellent-material-containing layer of the oxygen-diffusion layer is 15 to 65 wt%.~~

8. (Currently Amended) The fuel cell as claimed in Claim 3, wherein the sublayers containing the water-repellent material in ~~water-repellent-material-containing layer~~ of the fuel-diffusion layer and in ~~the water-repellent-material-containing layer of the~~ oxygen-diffusion layer contain an electrically ~~include a~~ conductive material, and wherein respectively, in which the electrically conductive material in the ~~water-repellent-material-containing layer of the~~ fuel-diffusion layer has higher water-repellency than that of the electrically conductive material in the ~~water-repellent-material-containing layer of the~~ oxygen-diffusion layer.
9. (Currently Amended) The fuel cell as claimed in Claim 3, wherein the water-repellent ~~water-repellent-material-containing layer~~ is a layer in which the water-repellency material is carried by a particulate electrically conductive material.
10. (Currently Amended) The fuel cell as claimed in Claim 3, wherein the fuel-diffusion layer has ~~the~~ water-repellent-material-containing sublayers at ~~its~~ both its sides.
11. (Currently Amended) The fuel cell as claimed in Claim 3, wherein the oxygen-diffusion layer has ~~the~~ water-repellent-material-containing sublayers at ~~its~~ both its sides.
12. (Original) The fuel cell as claimed in Claim 1, wherein the water contact angle on the surface of the fuel-diffusion layer is larger than the water contact angle on the surface of the oxygen-diffusion layer by at least 5°.

13. (Original) The fuel cell as claimed in Claim 1, wherein the water contact angle on the surface of the fuel-diffusion layer is 100 to 160°.

14. (Currently Amended) The fuel cell as claimed in Claim 1, wherein the water contact angle on the surface of the oxygen-diffusion layer is 90 to 150°.

15. (Currently Amended) The fuel cell as claimed in Claim 1, wherein the fuel cell uses hydrogen as fuel.

16. (Previously cancelled)

17. (Currently Amended) A fuel cell ~~device~~ device, comprising:

a fuel cell main body including ~~which includes~~

(a) a fuel electrode including ~~which has~~ a fuel-diffusion layer for diffusing fuel and a fuel-reactive layer for reaction of the fuel, said fuel-reactive layer contacting the fuel-diffusion layer and said fuel-diffusion layer containing a water-repellent material;

(b) an oxygen electrode including ~~which has~~ an oxygen-diffusion layer for diffusing oxygen and an oxygen-reactive layer for reaction of the oxygen, said oxygen-reactive layer contacting the oxygen-diffusion layer, and wherein said oxygen-diffusion layer contains a water-repellent material and has less water-repellency than said fuel-diffusion layer ~~; the fuel-diffusion layer having higher water-repellency than that of the oxygen-diffusion layer;~~ and

(c) an electrolyte layer, said fuel-reactive layer arranged between said electrolyte layer

and said fuel-diffusion layer and said oxygen-reactive layer arranged between said electrolyte layer and said oxygen-diffusion layer ~~which is arranged between the fuel electrode and the oxygen electrode;~~

fuel supply means for supplying fuel to the fuel electrode; and

oxygen supply means for supplying gas containing oxygen ~~gas~~ to the oxygen electrode.

18. (Original) The fuel cell device as claimed in Claim 17, further comprising water supply means for supplying water to the oxygen electrode.

19. (Newly Presented) The fuel cell as claimed in claim 1 wherein said fuel-reactive layer contains a catalyst that promotes hydrogen oxidation and wherein said oxygen-reactive layer contains a catalyst that promotes oxygen reduction.

20. (Newly Presented) The fuel cell device as claimed in claim 17 wherein said fuel-reactive layer contains a catalyst that promotes hydrogen oxidation and wherein said oxygen-reactive layer contains a catalyst that promotes oxygen reduction.